UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2000-0113

June 5, 2000

Mr. Gordon Cannon, Superintendent
Bureau of Indian Affairs
Warm Springs Agency
P.O. Box 1239
Warm Springs, Oregon 97761-1239

Re: Section 7 Consultation on Effects of the Proposed Bridge and Culvert Replacements on the Warm Spring Reservation, Deschutes River Basin, Wasco County, Oregon

Dear Mr. Cannon:

This responds to your May 18, 2000, letter and accompanying Biological Assessment (BA), received by the National Marine Fisheries Service (NMFS) on May 22, 2000, requesting consultation on the above referenced projects. The Confederated Tribes of Warm Springs (CTWS) proposes to replace washed out bridges with new pre-cast concrete bridges at two sites (Thompson Bridge and Peters Pasture), replace an existing bridge at one site (Potters Pond), and remove and replace existing culverts with bridges at two sites (Upper Badger Creek and South Fork Warm Springs River). The streams affected by the proposed projects would be Shitike Creek, Mill Creek, Badger Creek, and South Fork Warm Springs River (SFWSR). Shitike Creek enters the mainstem Deschutes River at River Mile (RM) 93. The other streams are tributaries to the Warm Springs River which enters the mainstem Deschutes River near RM 84. Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) were listed by the National Marine Fisheries Service (NMFS) as threatened under the Endangered Species Act (ESA) (64 FR 14517; March 25, 1999) and occur in these streams. The proposed actions are within designated critical habitat for MCR steelhead (65 FR 7764; February 16, 2000). In the May 18, 2000, letter and BA, the Bureau of Indian Affairs (BIA) determined that the subject actions are not likely to adversely affect (NLAA) MCR steelhead or their habitat. Juvenile MCR steelhead are likely to be rearing in these streams at the project sites during the time that in-water work would occur (May 22, 2000 e-mail from Gerald Henrikson, BIA, to Ron Lindland, NMFS). Because juvenile MCR steelhead are likely to be present and because of the type of in-water work involved (especially at the Potters Pond site), NMFS does not concur with the BIA's NLAA determination. Therefore, NMFS is issuing this biological opinion to address the effects of the proposed projects on MCR steelhead and their designated critical habitat.

This letter constitutes formal consultation and serves as a biological opinion for MCR steelhead. The objectives of this biological opinion are to determine whether the proposed actions are likely

to jeopardize the continued existence of MCR steelhead or destroy or adversely modify designated critical habitat. This consultation is undertaken pursuant to section 7 (a)(2) of the ESA and its implementing regulations, 50 CFR Part 402.

PROPOSED ACTIONS

The proposed projects are located at five sites on the Warm Springs Reservation. At the Thompson Bridge (T9S, R12E, S21) and Peters Pasture Bridge (T9S, R9E, S35) sites on Shitike Creek new free span, pre-cast concrete bridges will be installed at the sites of previously existing bridges which were washed out by high stream flows during 1996. At the Potters Pond site on Mill Creek (T8S, R11E, S19), an existing bridge and concrete pad, which spans the stream channel and creates a partial barrier to anadromous fish migration, will be removed and replaced with a pre-cast concrete bridge. At the Upper Badger Creek site (T7S, R10E, S32), three 48-inch diameter culverts will be removed and replaced by placing a railroad flatcar on pre-cast concrete foundation blocks. At the SFWSR site (T7S, R9E, S24), two 48-inch diameter culverts will be removed and replaced by a pre-cast concrete slab placed on a pre-cast concrete foundation. At the Potters Pond site, boulders will be placed in the stream to enhance fish habitat. Installation of the rip-rap around bridge footings, removal of the concrete pad at the Potters Pond site, and removal of the culverts at the Upper Badger Creek and SFWSR sites would involve in-water work which will disturb stream gravels, alter streambank vegetation, and temporarily increase sediment and water turbidity in the immediate project area. All in-water work would be completed between July 1 and August 10 which is within the work windows established by the CTWS and by the Oregon Department of Fish and Wildlife (ODFW) for Deschutes River tributary streams. Appropriate sediment control devices will be used to prevent sediment from being transported downstream from the project sites. All areas disturbed by construction at the project sites will be replanted with native vegetation. Additional mitigation measures are described on Pages 6 and 7 of the BA and are incorporated herein by reference.

BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The listing status and biological information for MCR steelhead are described in Busby et al. (1996). The NMFS designated critical habitat for MCR steelhead on February 16, 2000 (65 FR 7764). The actions addressed in this biological opinion are within the area designated as critical habitat for MCR steelhead. MCR steelhead are known to spawn and rear in the streams where proposed projects would be located.

EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA, as defined by 50

CFR Part 402 of the implementing regulations. NMFS must determine whether: (1) the action is likely to jeopardize the continued existence of the listed species; and (2) the action is likely to destroy or adversely modify critical habitat. This analysis involves the following steps: (A) Define the biological requirements of the species; (B) evaluate the environmental baseline relative to the species' current status; (C) determine the effects of the proposed or continuing action on the species; (D) determine whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the environmental baseline and any cumulative effects, and considering measures for survival and recovery specific to other life stages; and (E) identify reasonable and prudent alternatives to a proposed or continuing action that is likely to jeopardize the continued existence of the species.

In summary, for spawning and rearing habitat, NMFS' jeopardy analysis considers direct and indirect mortality of MCR steelhead attributable to the proposed action. The NMFS' critical habitat analysis considers the extent to which the proposed actions impair the function of essential elements necessary for productive spawning and rearing and migration of MCR steelhead.

Biological Requirements

The biological requirements of MCR steelhead are discussed in Busby et al. (1996). For this consultation, NMFS finds that the biological requirements of MCR steelhead are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of MCR steelhead. The NMFS defines this "properly functioning" condition as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meets the biological requirements of the fish species of interest. Individual environmental factors include water quality, habitat access, physical habitat elements, channel condition, and hydrology. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of MCR steelhead.

Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). For the proposed bridge and culvert replacement projects addressed in the biological opinion, the action area, therefore, includes Shitike Creek from the Peters Pasture Bridge site downstream to its mouth, Mill Creek from the Potters Pond Bridge site downstream to the Highway 26 crossing, Badger Creek from the culvert replacement site downstream to the Highway 26 crossing, and the SFWSR from the culvert replacement site downstream to its confluence with the Warm Springs River.

The current population status and trends for MCR steelhead are described in Busby et al. (1996).

Environmental baseline conditions within the action area were evaluated for the subject actions at the project level and watershed scales. This evaluation was based on the "matrix of pathways and indicators" (MPI) described in "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale" (NMFS 1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species.

For Shitike, Mill, and Badger Creeks, and the SFWSR, 13 of the 19 habitat indicators in the MPI were rated as properly functioning. These were: temperature, sediment, nutrients, physical barriers, pool frequency and quality, large pools, off-channel habitat, refugia, width/depth ratio, streambank condition, floodplain connectivity, peak/base flows, and disturbance history. The other six indicators were rated as functioning "at risk." These were: substrate embeddedness, large woody debris, drainage network increase, road density and location, riparian habitat conservation areas, and disturbance regime.

ANALYSIS OF EFFECTS

Effects of Proposed Action

In the BA, the MPI (NMFS 1996) was used to predict the effects of the action on current aquatic conditions (the environmental baseline). This assessment method was designed to provide adequate information in a tabular form for NMFS to determine the effects of actions subject to ESA consultation. The effects of the actions are expressed in terms of the expected effect (restore, maintain, degrade) on each of 19 aquatic habitat factors in the action area, as described in the "checklist for documenting environmental baseline and effects of the action" (checklist) (NMFS 1996) completed for each action and associated watershed. The results of the completed checklist for the action provide a starting point for determining the overall effect of the action on the environmental baseline. Implementation of the proposed bridge and culvert replacement projects is expected to help restore the physical barrier parameter by improving fish passage at three of the sites. The other parameters are expected to be at least maintained.

Short-term negative effects of the projects include disturbance and redistribution of fine sediment in the stream channel and increased turbidity resulting from instream work. There is also the possibility of the excavator/backhoe killing juvenile fish while removing the concrete pad at the Potters Pond site or performing other in-water work. Overall, direct mortality is expected to be minimal, because juvenile MCR steelhead will likely avoid the excavator/backhoe and can move freely upstream or downstream from the project area.

Somewhat longer term indirect effects could occur after completion of the project. Recontoured streambanks and fill slopes at the culvert replacement sites may contribute sediment to the stream until

revegetation occurs. Overall, however, the proposed project is expected to result in long-term beneficial effects on the aquatic habitat in Shitike, Mill, and Badger Creeks and the SFWSR.

Removal of the concrete pad at the Potters Pond site on Mill Creek and replacement of existing culverts with bridges on Upper Badger Creek and the SFWSR will result in improvement of passage conditions for migrating MCR steelhead in those streams.

Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area for this consultation includes Shitike Creek from the Peters Pasture Bridge site downstream to its mouth, Mill Creek from the Potters Pond Bridge site downstream to the Highway 26 crossing, Badger Creek from the culvert replacement site downstream to the Highway 26 crossing, and the SFWSR from the culvert replacement site downstream to its confluence with the Warm Springs River. The BIA identified no specific private or state actions that are reasonably certain to occur in the future that would affect MCR steelhead or their habitat within the action area.

CONCLUSIONS

The NMFS has determined that, when the effects of the bridge replacement projects on Shitike and Mill Creeks and the removal of existing culverts and replacement with bridges on Upper Badger Creek and the SFWSR addressed in this biological opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of MCR steelhead. Additionally, the NMFS concludes that the subject actions would not cause adverse modification or destruction of designated critical habitat for MCR steelhead. This conclusion was reached primarily because: (1) All in-water work would be completed during the CTWS's preferred in-water work period between July 1 and August 10 before adults return to spawn and after smolts have migrated to sea; (2) juvenile MCR steelhead which may be rearing in the project area are likely to move away from machinery working in the stream by swimming upstream or downstream from the work site during construction; (3) best management practices will be implemented to minimize transport of sediment into the stream and to areas downstream from the projects area both during and after construction; (4) passage conditions for migrating MCR steelhead will be improved by removal of the concrete structure at the Potters Pond site on Mill Creek and replacement of the existing culverts with bridges at the Upper Badger Creek and SFWSR sites; and, (5) streambank areas disturbed by construction will be planted with native vegetation to promote rapid riparian vegetative recovery. To reach these conclusions, NMFS used the best scientific and commercial data available as documented herein and by the BA.

CONSERVATION RECOMMENDATION

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS has no additional conservation recommendations regarding the action addressed in this opinion.

REINITIATION OF CONSULTATION

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Biological Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

Amount or Extent of Take

The NMFS anticipates that the subject actions covered by this biological opinion have more than a negligible likelihood of resulting in incidental take of juvenile MCR steelhead. Some minimal level of incidental take is expected to result from direct mortality or injury to juvenile MCR steelhead during removal of the concrete pad at the Potters Pond site on Mill Creek, placement of rip-rap around the bridge footings, and removal of the existing culverts at the Upper Badger Creek and SFWSR. Direct mortality is expected to be minimal, because juvenile MCR steelhead are mobile and can move away from instream construction activities by swimming
upstream or downstream from the sites. The temporary increase in stream turbidity resulting from these actions could result in temporarily reduced feeding efficiency for juvenile MCR steelhead. Effects from turbidity are also expected to be minimal because turbidity levels will quickly return to pre-construction levels once instream work is completed. Because of the inherent biological characteristics of aquatic species such as MCR steelhead, however, the likelihood of discovering take attributable to these actions is very small. Effects of actions such as the proposed bridge and culvert replacement projects addressed in this biological opinion are largely unquantifiable in the short-term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NMFS expects some incidental take to occur due to the actions covered by this biological opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take of listed fish at any life stage.

Effect of the Take

In this Biological Opinion, NMFS has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead or to destroy or adversely modify designated critical habitat.

Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of MCR steelhead resulting from the subject action.

1. The BIA/CTWS shall minimize the amount and extent of incidental take from in-water work associated with removing of the concrete pad at the Potters Pond site, placing of rip-rap around bridge footings, removing culverts, installing new bridges, placing bridge abutments, placing large boulders for fish habitat enhancement at the Potters Pond site, and recontouring streambanks.

2. The BIA/CTWS shall minimize the amount and extent of incidental take and impacts to critical habitat from erosion and chemical pollution.

3. The BIA/CTWS shall monitor and report on the effectiveness of erosion control measures and riparian plantings.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the BIA/CTWS must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1a. All work below the ordinary high water line will be completed within CTWS's in-water work period for Shitike, Mill, and Badger Creeks and the SFWSR (July 1-August 10). Any extensions of the in-water work period will first be approved by and coordinated with NMFS prior to implementation.

1b. When removing the existing concrete pad at the Potters Pond site, placing rip-rap around bridge footings, removing culverts, installing new bridges, placing bridge abutments, placing large boulders for fish habitat enhancement at the Potters Pond site, and recontouring streambanks, mechanized equipment will be positioned on the streambank (out of the water) to the maximum extent practicable.

2a. Areas for fuel storage and refueling and servicing of construction equipment and vehicles will be located at least 150 feet away from any water body. Spill control materials will be on site during construction activities.

2b. Appropriate sediment control measures (e.g., silt fences, straw bales, mulch) shall be implemented to minimize sediment transport into the stream and downstream from the channel reconstruction and streambank recontouring sites.

2c. All equipment that is used for instream work will be cleaned of external grease, oil, and mud prior to entering the project area. Cleaning of equipment shall occur outside RHCAs.

2d. In all disturbed areas along streambanks resulting from implementation of the projects, the disturbed streambank shall be planted with native trees, shrubs, and grasses as appropriate.

3a. The BIA/CTWS shall monitor the success of plantings and effectiveness of erosion control measures in the project area on at least three occasions during the first year (e.g. one month, six months, and one year) and yearly thereafter for a total of three years, or more often if necessary, after completion of the projects.

3b. Failed plantings and erosion control measures shall be replaced, if replacement would potentially result in success, or alternative measures shall be implemented.

This concludes formal consultation. Please direct any questions regarding this consultation to Ron Lindland of my staff in the Oregon State Branch Office at (503) 231-2315.

Sincerely,

for William Stelle, Jr.
Regional Administrator

cc: Jeff Dillon, U.S. Fish and Wildlife Service
Gerald Henrickson, Bureau of Indian Affairs

REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion in addition to the BA.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I. V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. NOAA Technical Memorandum NMFS-NWFSC-27. August. 261 p.

National Marine Fisheries Service (NMFS). 1997. Status Review Update for Deferred and Candidate ESUs of West Coast Steelhead. December 62 p.

National Marine Fisheries Service (NMFS). 1996. Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale. NMFS, Environmental and Technical Services Division, Habitat Conservation Branch, 525 NE Oregon Street, Portland, Oregon. 28 p.